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**ELECTRICAL DIFFUSER FOR AIR FRESHENERS, INSECTICIDES AND
THE LIKE**

D E S C R I P T I O N

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OBJECT OF THE INVENTION

The present invention relates to an electrical diffuser, of those which cause the evaporation or sublimation of an air freshener, insecticide or the like, diffuser which is designed and structured in order to obtain an automatic operation limited to the moments in which its operation is more necessary, according to the type of product diffused.

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BACKGROUND OF THE INVENTION

Diffusers are known which, with an air freshener, insecticide, etc. as the raw matter, are provided with a heating device, specifically an electrical resistance, which supplies the required heat to the product, whether in solid or liquid state, in order to establish the suitable rate of evaporation or sublimation.

More specifically, these devices are provided with a body in which is generally established the plug for the electrical power supply to the heating element, inside which is a housing either for a pill of solid product or for the container of the liquid product, with the corresponding evaporation wick.

Their design is generally such that the electrical plug acts as a wall support for the diffuser within the socket chosen for it in a room, so that its mechanical attachment brings about an electrical connection in

parallel, with in the best of cases a switch provided to disconnect the power supply from the heating element without having to unplug the device from its place of operation.

5

This implies that either the device is permanently connected, twenty-four hours a day, as often occurs, or one must remember to connect and disconnect it when desired or when it is considered necessary, as if the diffuser is used
10 as an air freshener there is no sense in having it operate at night and if it is used as an insecticide it is not required during the day, as mosquitoes generally act at night-time.

15 DESCRIPTION OF THE INVENTION

The electrical diffuser disclosed by the invention has been conceived and designed in order to solve the above problems to a full satisfaction, allowing an automatic
20 operation with an automatic electrical connection and disconnection depending on the luminous intensity of the surroundings.

For this purpose, and more specifically, based on
25 the structure of any conventional electrical diffuser, that is, employing an electrical heating resistance provided with means for its connection to the electricity network of any home or premises, the diffuser of the invention centers its characteristics in that it incorporates a light sensor
30 with the associated electronic circuitry, which acts as a switch for the heating element so that, depending on the signal received by said light sensor, the diffuser will operate or not.

35 More specifically, when the diffuser is meant for

air fresheners said electronic switch shall cause the connection of the heating element in the presence of light, so that the diffuser operates during the daytime and is off during the night, while when it is meant to diffuse
5 insecticides its operation is the inverse, that is, the absence of light resulting in connection and its presence the disconnection, so that the diffuser operates during the daytime and is off during the night.

10 DESCRIPTION OF THE DRAWINGS

As a complement of the description and in order to aid a better understanding of the characteristics of the invention, according to an example of a preferred
15 embodiment, the memory is accompanied by a set of drawings where, for purposes of illustration and in a non-limiting sense the following is represented:

Figure 1.- Shows, in a side elevation view, an
20 electrical diffuser for air fresheners, insecticides and the like according to the object of the invention.

Figure 2.- Shows an axial view of the same
25 diffuser.

Figure 3.- Shows, finally, a plan view of the same
diffuser.

30 PREFERRED EMBODIMENT OF THE INVENTION

In view of these figures the electrical diffuser disclosed is shown to comprise, as any conventional diffuser of this type, a body (1) structured according to any design lines and from which emerges, as a single part,
35 a plug (2) with pins (3), which in addition to being the

means for electrical connection of the diffuser circuit also serve as the means of attachment to the wall electrical socket.

5 Based on this basic and conventional structure, the electrical diffuser disclosed by the invention centers its characteristics in that it incorporates a light sensor (4) with the associated electronic circuitry, which acts as a switch for the classical electrical resistor or heating
10 which supplies the product pill or the product container the heat required to diffuse said product.

 Thus, according to the above, connection and disconnection of the heating element occurs automatically
15 depending on the luminosity of the surroundings sensed by light sensor (4), without prejudice of the electrical diffuser being unplugged in a conventional manner by extracting pins (3) from the socket.

20 Based on this basic structure and depending on the specific application of the diffuser, the electronic circuit which comprises the switch may differ slightly, so that as mentioned above, when the diffuser is meant for air fresheners said electronic switch shall close the power
25 supply circuit for the heating element in the presence of light, that is, when light sensor (4) is excited, so that the diffuser operates during the daytime, while when it is meant to diffuse insecticides its operation is the inverse, that is, the presence of light resulting in an open circuit
30 and light sensor (4) closing the circuit when it detects the presence of light, so that the diffuser operation is limited to the night-time, which is when the insecticide product is required.

35 Lastly, for said electronic circuitry comprising

the switch excited by the light sensor (4) there are a number of conventional solutions which may be used for other purposes, any of which can in principle be valid as long as its baseplate size is suitable for the capacity of case (1) and/or said case is adapted to said printed circuit board.

C L A I M S

1.- Electrical diffuser for air fresheners,
insecticides and the like, of the type which include a
5 heating element embodied as an electrical resistor,
suitably arranged in order to supply heat to either a solid
product pill, or a container of a liquid product, so that
the heat generated by said heating element causes
evaporation or sublimation of the product concerned,
10 characterised in that it incorporates an electronic switch
automatically operated by a light sensor, so that the
operation of the diffuser depends on the ambient light
intensity.

15 2.- Electrical diffuser for air fresheners,
insecticides and the like, as claimed in claim 1,
characterised in that the electronic switch closes the
power supply circuit of the heating element when a certain
ambient light intensity is exceeded.

20 3a.- Electrical diffuser for air fresheners,
insecticides and the like, as claimed in claim 1,
characterised in that the electronic switch closes the
power supply circuit of the heating element when under a
25 certain ambient light intensity.

**ELECTRICAL DIFFUSER FOR AIR FRESHENERS, INSECTICIDES AND
THE LIKE**

ABSTRACT

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An electrical diffuser is disclosed which evaporates air fresheners, insecticides or the like, which operates automatically depending on the ambient light intensity, so that when it is used for air fresheners the
10 diffuser operates during the daytime and when used for insecticides it operates at night and disconnects when daytime arrives. Said automatic operation is achieved by means of an electronic circuit provided with a light sensor which operates an electronic switch for the typical
15 electrical resistor which causes evaporation of the product.

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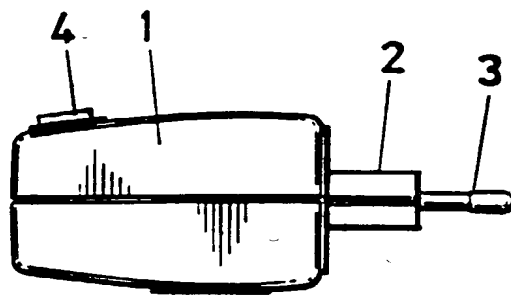


FIG. 1

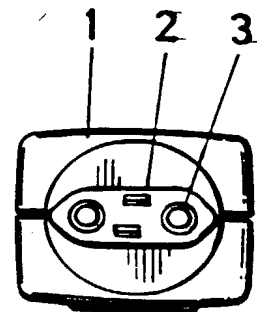


FIG. 2

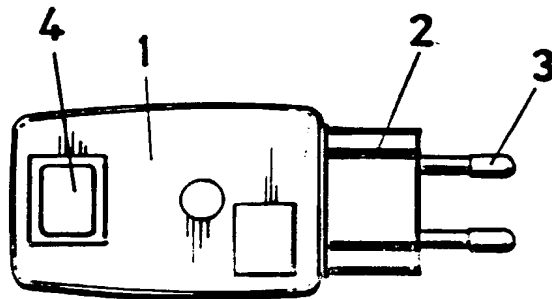



FIG. 3

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	First Named Inventor	Jordi BASAGANAS MILLAN et al
	COMPLETE IF KNOWN	
	Application Number	10 / 070,769
	Filing Date	March 6, 2002
	Group Art Unit	
Examiner Name		

As a below named inventor, I hereby declare that:

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I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

Electrical Diffuser for Air Fresheners, Insecticides and the Like

the specification of which (Title of the Invention)

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☒ was filed on (MM/DD/YYYY) March 6, 2002 as United States Application Number or PCT International

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I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

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Harris A. Wolin	39.432	Emma Shleifer	29.734
Shahan Islam	32.507		

☐ Additional registered practitioner(s) named on supplemental Registered Practitioner Information sheet PTO/SB/02C attached hereto.

Direct all correspondence to: ☐ Customer Number or Bar Code Label OR ☒ Correspondence address below

Name	Katten Muchin Zavis Roschman				
Address	575 Madison Avenue				
Address	15th Floor				
City	New York	State	NY	ZIP	
Country		Telephone	(212) 940-8800	Fax	(212) 940-8986

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Name of Sole or First Inventor: ☐ A petition has been filed for this unsigned inventor

Given Name (first and middle (if any))		Family Name or Surname	
Jordi		BASAGANAS MILLAN	
Inventor's Signature	Date		21-06-2002
Residence: City	Barcelona	State	Spain
Post Office Address	Argenters, 2-4-8 Edif. 3C/P. C/B Parc Tecnologic del Valles,		
Post Office Address	Cerdanyola del Valles		
City	Barcelona	State	Spain
		ZIP	E-08290
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